This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (original): A medical device having a surface, said surface defining a surface layer substantially comprising chromium nitride.

Claim 2 (original): The medical device of claim 1 wherein said surface layer has a depth measured from said surface, said depth being greater than 3 microns.

Claim 3 (original): The medical device of claim 1 wherein said surface layer has a depth measured from said surface, said depth being less than 15 microns.

Claim 4 (original): The medical device of claim 1 further comprising a transition layer adjacent to said surface layer, said transition layer having a depth less than a depth of said surface layer.

Claim 5 (original): The medical device of claim 1 wherein said surface is a load bearing surface.

Claim 6 (original): An implantable medical device comprising:

(a) a first body including a first surface comprising one of a metal, a polymer, a ceramic, and a bone; and

(b) a second body comprising cobalt and chromium, said second body having a second surface arranged for ~~movable~~ contact with and movement relative to said first surface, said second surface defining a surface layer substantially comprising chromium nitride.

Claim 7 (original): The medical device of claim 6 wherein said surface layer has a depth measured from said second surface, said depth being greater than 3 microns.

Claim 8 (original): The medical device of claim 6 wherein said surface layer has a depth measured from said second surface, said depth being less than 15 microns.

Claim 9 (original): The medical device of claim 6 further comprising a transition layer adjacent to said surface layer, said transition layer having a depth less than a depth of said surface layer.

Claim 10 (original): The implantable medical device of claim 6 wherein said body further comprises molybdenum.

Claim 11 (currently amended): The implantable medical device of claim 6 wherein said body comprises an alloy of cobalt and chromium conforming to one of an ASTM-F75 standard specification, an ASTM-F-75 Modified standard specification, and an ASTM-799 standard specification.

Claim 12 (original): A medical device comprising a body comprising cobalt and chromium, said body including a surface exposed to a gas including nitrogen at a pressure less than one atmosphere and a temperature within a range of 250°C to 1000°C for a time sufficient to form a surface layer defined by said surface, said surface layer comprising substantially chromium nitride.

Claim 13 (original): The medical device of claim 12 wherein said surface layer has a depth measured from said surface, said depth being greater than 3 microns.

Claim 14 (original): The medical device of claim 12 wherein said surface layer has a depth measured from said surface, said depth being less than 15 microns.

Claim 15 (original): The medical device of claim 12 further comprising a transition layer adjacent to said surface layer, said transition layer having a depth less than a depth of said surface layer.

Claim 16 (original): The medical device of claim 12 wherein said body further comprises molybdenum.

Claim 17 (currently amended): The medical device of claim 12 wherein said body comprises an alloy of cobalt and chromium conforming to one of an ASTM-F75 standard specification, an ASTM-F-75 Modified standard specification, and an ASTM-799 standard specification.

Claim 18 (original): The medical device of claim 12 wherein said gas further comprises at least one of hydrogen, argon, and methane.

Claim 19 (original): The medical device of claim 12 wherein said temperature within said range of 250°C to 1000°C comprises a temperature within a range of 450°C to 600°C.

Claim 20 (original): The medical device of claim 12 wherein said pressure less than one atmosphere comprises a pressure less than 100 millibars.

Claim 21 (original): The medical device of claim 12 wherein said pressure less than one atmosphere comprises a pressure less than 5 millibars.

Claim 22 (original): The medical device of claim 21 wherein said pressure less than one atmosphere comprises a pressure greater than 1 millibar.

Claim 24 - 26 (canceled):

Claim 27 (new): The medical device of claim 12 wherein said time sufficient to form said surface layer comprises a period longer than 8 hours and shorter than 42 hours.

Claim 28 (new): A medical device having a surface, said medical device comprising:

(a) a matrix comprising cobalt, chromium and molybdenum; and

(b) a surface layer defined by said surface, said surface layer comprising substantially chromium nitride and having a depth from said surface of at least 3 microns.

Claim 29 (new): The medical device of claim 28 wherein said surface layer is produced by a process comprising the steps of:

(a) exposing said surface to a first stage plasma for a first period of at least two hours, said first stage plasma being produced by exposing a first stage gas comprising less than 10 percent nitrogen and at least 90 percent hydrogen to an electrical pulse having a first stage voltage, said first stage gas having a pressure less than one atmosphere and a temperature within a range of 450°C to 600°C; and

(b) exposing said surface to a second stage plasma for a second period, said second period being at least fourteen hours in length and subsequent to said first period, said second stage plasma being produced by exposing a gas comprising a greater percentage of nitrogen than that of said first stage gas to an electrical pulse having a second stage voltage, said second stage voltage being less than said first stage voltage, said second stage gas having a pressure less than one atmosphere and a temperature within a range of 450°C to 600°C.